WHAT IS CLAIMED IS:

1. A process for forming enantiomerically-enriched tetrahydrobiopterin or a salt thereof from neopterin, comprising the following steps:

(a) reacting the primary hydroxyl group of neopterin with a silyl protecting group;

(b) protecting the secondary hydroxyl groups with a secondary hydroxyl protecting group;

(c) converting the silyl group formed in step (b) to a surrogate group selected from the group consisting of halogens, sulfonates, and thioethers;

(d) reduction at the substituted formed in step (e) to a methyl group; and

(e) removing the secondary hydroxyl protecting group added at step (d).

2. The process of claim 1, further comprising the step of protecting the primary amine group at C-2 of neopterin with a 2-amino protecting group before performing said step (a).

3. The process of claim 2, further comprising the step of removing the 2-amino protecting group after step (a) is performed.

4. The process of claim 1, further comprising the step of isolating the tetrahydrobiopterin product after step (e) is performed.

5. The process of claim 1, further comprising the step of erythro-selective hydrogenation of the product resulting from step (e).

6. The process of claim 5, wherein said erythro-selective hydrogenation is performed by a reducing agent selected from the group consisting of sodium

borohydride, and platinum dioxide and hydrogen.

7. The process of claim 2, wherein said 2-amino protecting group said 2-amino protecting group comprises a protecting group selected from the group consisting of linear chain alkyl groups, branched chain alkyl groups, single substituted amino groups, double substituted amino groups, aryl single substituted amino groups, linear alkyl substituted sulfur groups, branched chain alkyl substituted sulfur groups, linear alkyl single substituted alkylaminomethylene-imine groups, linear alkyl double substituted alkylaminomethylene-imine groups, branched alkyl single substituted alkylaminomethylene-imine groups, and branched alkyl double substituted alkylaminomethylene-imine groups.

8. The process of claim 7, wherein said 2-amino protecting group comprises a dialkylformamidedialkylacetal group.

9. The process of claim 8, wherein said dialkylformamidedialkylacetal group is selected from the group consisting of N,N-dimethylformamidediethylacetal, and N,N-dimethylformamidedimethylacetal.

10. The process of claim 7, wherein said 2-amino protecting group comprises a pivaloyl derivative of neopterin.

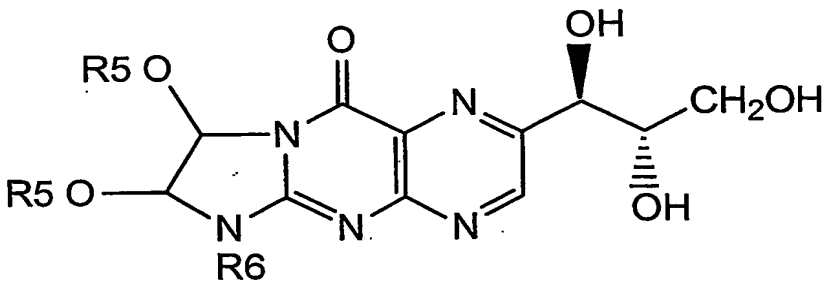
11. The process of claim 10, wherein said protecting the 2-amino group of neopterin is prepared by a two step process comprising, preparing a tetrapivaloyl derivative of neopterin, and performing alkaline hydrolysis on three pivaloyl groups on said tetrapivaloyl derivative of neopterin.

12. The process of claim 1, wherein said step (c) is performed by a direct conversion of the primary hydroxyl protecting group to a halogen.

13. The process of claim 1, wherein said step (c) is performed by selective

cleavage of said silylether formed in step (a) followed by a conversion of the resulting primary hydroxyl group to a group selected from the group consisting of halogens, sulfonates, and thioethers..

14. The process of claim 2, wherein the product resulting from said step (a) comprises a compound of the Formula 20:



20

wherein R5 is -COR', R' is selected from the group consisting of linear chain alkyl groups, branched chain alkyl groups, aryl groups, and t-butyl; and R6 is selected from the group consisting of linear chain alkyl groups, branched chain alkyl groups, and aryl groups.

15. The process of claim 1, wherein said silyl protecting group comprises a protecting group selected from the group consisting of linear chain alkyl substituted silyl groups, branched chain alkyl substituted silyl groups, and aryl substituted silyl groups.

16. The process of claim 1, wherein said silyl protecting group comprises a silyl protecting group that is stable under acidic conditions.

17. The process of claim 15, wherein said silyl protecting group is selected from the group consisting of t-butyldimethylsilane, and t-butyldiphenylsilane.

18. The process of claim 1, wherein said secondary hydroxyl protecting group comprises an acetal or a ketal.

19. The process of claim 18, wherein said acetal or said ketal comprises isopropylideneketal.

20. The process of claim 1, wherein said silyl protecting group is exchanged with a halogen.

21. The process of claim 20, wherein said halogen comprises bromine.

22. The process of claim 20, wherein said exchange of said silyl protecting group is performing using a triphenylphosphine halogen.

23. The process of claim 1, wherein said silyl protecting group is selectively cleaved off by alkaline hydrolysis and the product of said hydrolysis is transformed by halogenation.

24. The process of claim 23, wherein said halogenation is performed with a triphenylphosphine halogen.

25. The process of claim 24, wherein said triphenylphosphine halogen comprises triphenylphosphine bromide.

26. The process of claim 1, wherein said silyl protecting group is selectively cleaved off by alkaline hydrolysis and the product of said hydrolysis is sulfonylated.

27. The process of claim 26, wherein the sulfonylation is performing with sulfonylchloride and a base.

28. The process of claim 1, wherein said silyl protecting group is converted to a thioether using the combination of triphenylphosphine, a dialkyl azodicarboxylate, and a thiol.

29. The process of claim 28, wherein said thiol comprises ethanthiol.

30. The process of claim 28, further comprising the step of reducing said

thioether to leave a methyl group at the C-3' position on the neopterin side chain.

31. The process of claim 30, wherein said reduction is performed with a Raney-Nickel reagent combined with hydrogen.

32. The process of claim 31, wherein said reduction is carried out in an ethanol solvent medium.

33. The process of claim 32, wherein the weight ratio of said ethanol solvent medium to said thioether is about 4:1.

34. The process of claim 1, wherein said step (d) is performed with sodium borohydride, and wherein said reduction is performed in dimethylsulfoxide.

35. The process of claim 1, further comprising the step of forming a salt of tetrahydrobiopterin.

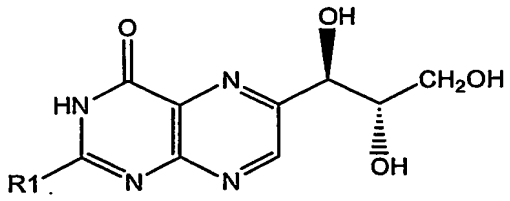
36. The process of claim 35, wherein said salt of tetrahydrobiopterin comprises a dichloride salt of tetrahydrobiopterin.

37. The process of claim 36, further comprising the step of purifying said dichloride salt of tetrahydrobiopterin with recrystallization.

38. The process of claim 1, wherein said steps (a) to (e) are carried out in a polar solvent.

39. The process of claim 38, wherein said polar solvent comprises dimethylformamide.

40. A compound of Formula 6.

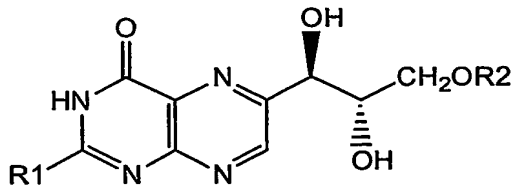


6

wherein R1 is selected from the group consisting of single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, branched chain alkyl substituted sulfur groups, single linear chain alkyl substituted alkylaminomethyleneimine groups, or single branched chain alkyl substituted alkylaminomethyleneimine groups, double linear chain alkyl substituted alkylaminomethyleneimine groups, double branched chain alkyl substituted alkylaminomethyleneimine groups.

41. The compound of claim 40, wherein R1 is selected from the group consisting of N,N-diethylformamideacetal, and N,N-dimethylformamideacetal.

42. A compound of Formula 7



7

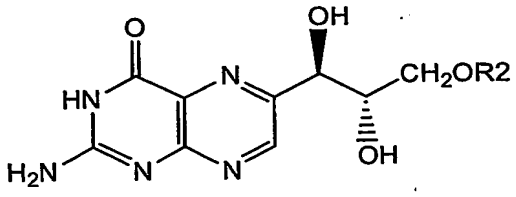
wherein R1 is selected from the group consisting of single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, branched chain alkyl substituted sulfur groups, and 2,2-dimethylpropanamide; and wherein R2 is a silyl group that is stable under acidic conditions.

43. The compound of claim 42, wherein R1 comprises N,N-dimethylaminomethylene amino, and R2 is selected from the group consisting of

diethylisopropylsilyl, dimethylisopropylsilyl, dimethylphenylsilyl, diphenylisopropoxysilyl, diphenyl-t-butoxysilyl, di-t-butylmethylsilyl, di-t-butylsilylene, methyldiisopropylsilyl, methyldiphenylsilyl, t-butylmethoxyphenylsilyl, t-butyldimethylsilyl, thexyldimethylsilyl, triethylsilyl, 1,1,3,3,-tetra-isopropyldisiloxane, triisopropylsilyl, trimethylsilyl, trimethylsilyloxycabomyl, and t-butyldiphenylsilanoyl.

44. The compound of claim 43, wherein R2 comprises t-butyldiphenylsilanoyl.

45. A compound of Formula 7a



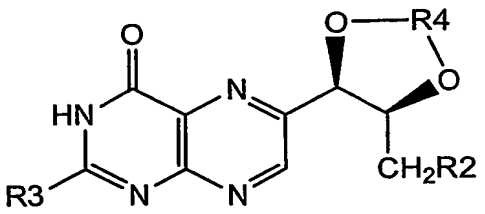
7a

wherein R2 is a silyl group that is stable under acidic conditions.

46. The compound of claim 45, wherein R2 is selected from the group consisting of diethylisopropylsilyl, dimethylisopropylsilyl, dimethylphenylsilyl, diphenylisopropoxysilyl, diphenyl-t-butoxysilyl, di-t-butylmethylsilyl, di-t-butylsilylene, methyldiisopropylsilyl, methyldiphenylsilyl, t-butylmethoxyphenylsilyl, t-butyldimethylsilyl, thexyldimethylsilyl, triethylsilyl, 1,1,3,3,-tetra-isopropyldisiloxane, triisopropylsilyl, trimethylsilyl, trimethylsilyloxycabomyl, and t-butyldiphenylsilanoyl.

47. The compound of claim 46, wherein R2 comprises t-butyldiphenylsilane.

48. A compound of Formula 8



8

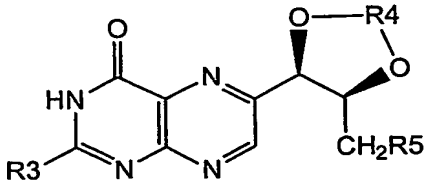
wherein R3 is selected from the group consisting of NH_2, 2,2-dimethylpropanamide, single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, and branched chain alkyl substituted sulfur groups; R2 is a silyl group that is stable under acidic conditions; and R4 a substituted acetal or ketal group that is stable under alkaline conditions.

49. The compound of claim 48, wherein said substituted acetal or ketal group is selected from the group consisting of linear alkyl substituted acetals or ketals, branched alkyl chain substituted acetals or ketals, and aryl substituted acetals or ketals.

50. The compound of claim 49, wherein said substituted acetal or ketal group is selected from the group consisting of methylene acetal, ethylidene acetal, t-butylmethylidene ketal, 1-t-butylethylidene ketal, 1-phenylethylidene ketal, 1-(4-methoxyphenyl)ethylidene acetal, 2,2,2-trichloroethylidene acetal, acrolein acetal, cyclopentylidene ketal, cyclohexylidene ketal, cycloheptylidene ketal, benzylidene acetal, p-methoxybenzylidene acetal, 2,4-dimethoxybenzylidene ketal, 3,4-dimethoxybenzylidene acetal, 2-nitrobenzylidene acetal, 4-nitrobenzylidene acetal, mesitylene acetal, 1-naphthaldehyde acetal, benzophenone ketal, and isopropylideneketal.

51. The compound of claim 48, wherein R3 comprises an N,N-dimethylaminomethylene substituted amino group.

52. A compound of Formula 9.



9

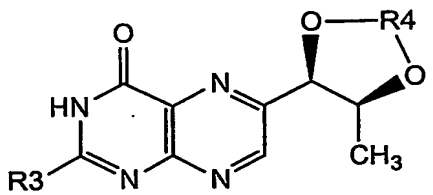
wherein R3 is selected from the group consisting of NH_2, 2,2-dimethylpropanamide, single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, and branched chain alkyl substituted sulfur groups; R4 is selected from the group consisting of linear alkyl substituted acetals or ketals, branched alkyl chain substituted acetals or ketals, and aryl substituted acetals or ketals; and wherein R5 is a halogen.

53. The compound of claim 52, wherein R5 is selected from the group consisting of chlorine, bromine, and iodine.

54. The compound of claim 52, wherein R4 comprises dimethylacetal.

55. The compound of claim 52, wherein R3 comprises a N,N-dimethylaminomethylene substituted amino group.

56. A compound of Formula 10.



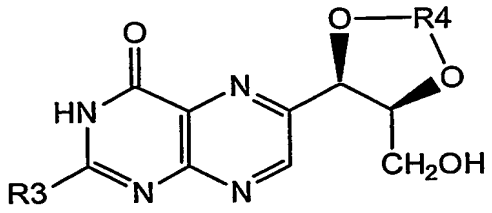
10

wherein R3 is selected from the group consisting of NH_2, 2,2-dimethylpropanamide, single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, and branched chain alkyl substituted sulfur groups; and R4 is selected from the group consisting of linear alkyl substituted acetals or ketals, branched alkyl chain substituted acetals or ketals, and aryl substituted acetals or ketals.

57. The compound of claim 56, wherein R4 comprises dimethylacetal.

58. The compound of claim 56, wherein R3 comprises a N,N-dimethylaminomethylene substituted amino group.

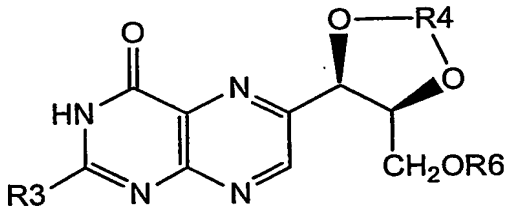
59. A compound of Formula 11.



11

wherein R3 is selected from the group consisting of NH_2, 2,2-dimethylpropanamide, single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, and branched chain alkyl substituted sulfur groups; and R4 is selected from the group consisting of linear alkyl substituted acetals or ketals, branched alkyl chain substituted acetals or ketals, and aryl substituted acetals or ketals.

60. A compound of Formula 12.



12

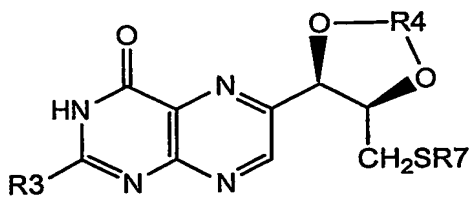
wherein R3 is selected from the group consisting of NH_2, 2,2-dimethylpropanamide, single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, and branched chain alkyl substituted sulfur groups; R4 is selected from the group consisting of linear alkyl substituted acetals or ketals, branched alkyl chain substituted acetals or ketals, and aryl substituted acetals or ketals; and R6 is selected from the group consisting of linear chain alkyl substituted sulfonates, branched chain alkyl substituted sulfonates, and aryl substituted sulfonates.

61. The compound of claim 60, wherein R4 comprises dimethylacetal.

62. The compound of claim 60, wherein R3 comprises a N,N-dimethylaminomethylene substituted amino group.

63. The compound of claim 60, wherein R6 comprises a tosyl group.

64. A compound of Formula 11a



11a

wherein R3 is selected from the group consisting of NH_2, 2,2-dimethylpropanamide, single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, and branched chain alkyl substituted sulfur groups; R4 is selected from the group consisting of linear alkyl substituted acetals or ketals, branched alkyl chain substituted acetals or ketals, and aryl substituted acetals or ketals; and R7 is selected from the group consisting of linear chain alkyl groups, branched chain alkyl groups, and aryl groups.

65. A process for forming enantiomerically-enriched tetrahydrobiopterin or a salt thereof, comprising the following steps:

(a) reacting pterin at the C-6 position to prepare a 6-substituted pterin;

(b) protecting the primary amine group at C-2 of neopterin with a 2-amino protecting group;

(c) metalation of the protected 6-substituted pterin;

(d) coupling of the product of the metalation of the protected 6-substituted pterin with lactic acid or a precursor of lactic acid;

(e) removing the 2-amino protecting group; and

(f) erythro-selective reduction.

66. The process of claim 65, wherein the steps (e) and (f) are carried in the same reaction vessel.

67. The process of claim 65, wherein the product from step (e) is isolated.

68. The process of claim 65, wherein the 6-substituted pterin comprises a 6-halogenated pterin.

69. The process of claim 68, wherein said 6-halogenated pterin is selected from the group consisting of 6-chloropterin, 6-bromopterin, and 6-iodopterin.

70. The process of claim 69, wherein said 6-halogenated pterin comprises 6-iodopterin.

71. The process of claim 65, wherein the 6-substituted pterin comprises 6-sulfonated pterin.

72. The process of claim 65, wherein said 2-amino protecting group is selected from the group consisting of single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, branched chain alkyl substituted sulfur groups, linear chain alkyl single substituted amido groups, branched chain alkyl single substituted amido groups, and aryl substituted amido groups.

73. The process of claim 72, wherein said 2-amino protecting group comprises a dialkylformamidedialkylacetal.

74. The process of claim 73, wherein said dialkylformamidedialkylacetal is selected from the group consisting of N,N-dimethylformamidediethylacetal, N,N-dimethylformamidedimethylacetal, and bis-dimethylamino-alkoxymethane.

75. The process of claim 72, wherein said 2-amino protecting group is selected from the group consisting of linear chain alkyl single substituted amido groups, branched chain alkyl single substituted amido groups, aryl substituted amido

group, a pivaloyl group, and 2,2-dimethylpropanamido.

76. The process of claim 72, wherein said 2-amino protecting group comprises a pivaloyl group.

77. The process of claim 65, wherein said metalation is performed with a reagent selected from the group consisting of RMgX, alkyl-metal complexes, and metals, wherein X is a halogen, and R is selected from the group consisting of alkyl groups, and aryl groups.

78. The process of claim 77, wherein said metalation is performed with a RMgX reagent, and wherein R is an isopropyl group and X is chloride.

79. The process of claim 77, wherein said alkyl-metal complex comprises an alkyl-metallic lithium complex.

80. The process of claim 79, wherein said alkyl-metallic lithium complex is selected from the group consisting of n-butyllithium, and t-butyllithium.

81. The process of claim 65, wherein said coupling is performed between said protected 6-metalated pterin and a protected lactic acid chloride.

82. The process of claim 81, wherein said protected lactic acid chloride comprises a hydroxyl protected lactic acid chloride.

83. The process of claim 82, wherein said hydroxyl protected lactic acid chloride comprises 2-acetoxypropionic chloride.

84. The process of claim 65, wherein said precursor of lactic acid is selected from the group consisting of 2-oxopropanoyl chlorides, and 2-oxopropanal.

85. The process of claim 84, further comprising the step of reducing the resulting diketones.

86. The process of claim 65, wherein said metalation and said coupling

steps are carried in the same reaction vessel.

87. The process of claim 86, wherein said metalation and said coupling steps are performed with sonification.

88. The process of claim 65, wherein said erythro-selective reduction is performed with sodium borohydride in an alkaline medium.

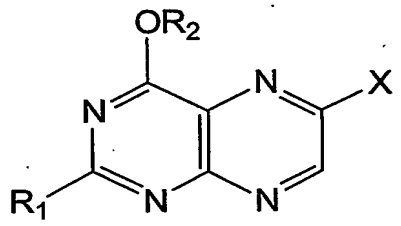
89. The process of claim 65, wherein said erythro-selective reduction is performed with hydrogen and a catalytic amount of platinum dioxide.

90. The process of claim 65, further comprising the step of forming a salt of tetrahydrobiopterin.

91. The process of claim 65, wherein said salt of tetrahydrobiopterin comprises a dihydrochloride salt of tetrahydrobiopterin.

92. The process of claim 90, further comprising the step of crystallization of said salt of tetrahydrobiopterin.

93. A compound of Formula 2

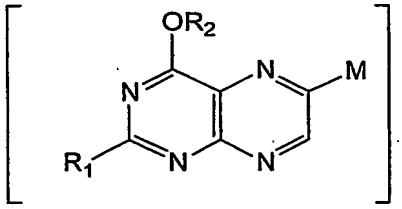


2

wherein X is selected from the group consisting of chlorine, bromine, iodine, and sulfonates; R1 is selected from the group consisting of single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, branched chain alkyl substituted sulfur groups, single linear

chain alkyl substituted alkylaminomethylene-imine groups, single branched chain alkyl substituted alkylaminomethylene-imine groups, double linear chain alkyl substituted alkylaminomethylene-imine groups, and double branched chain alkyl substituted alkylaminomethylene-imine groups; and R2 is selected from the group consisting of hydrogen, linear chain alkyl groups, branched chain alkyl groups, and aryl groups.

94. A compound of Formula 3

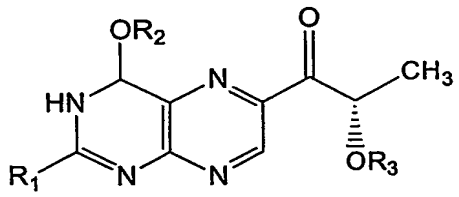


3

wherein R1 is selected from the group consisting of single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups; branched chain alkyl substituted sulfur groups, and 2,2-dimethylpropanamide; R2 is selected from the group consisting of hydrogen, linear chain alkyl groups, branched chain alkyl groups, and aryl groups; and M is selected from the group consisting of boron, silicon, zirconium, titanium, sodium, aluminum, nickel, cobalt, scandium, chromium, ytterbium, lithium, magnesium, zinc, palladium, copper, manganese, cesium, and tin.

95. The compound of claim 94, wherein R1 comprises an N,N-dimethylaminomethylene substituted amino group.

96. A compound of Formula 4

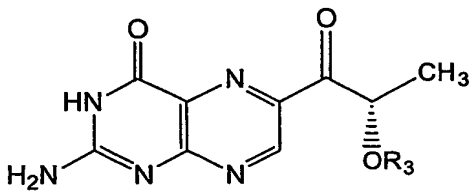


4

wherein R1 is selected from the group consisting of NH_2, 2,2-dimethylpropanamide, single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, and branched chain alkyl substituted sulfur groups; R2 is selected from the group consisting of hydrogen, linear chain alkyl groups, branched chain alkyl groups, and aryl groups; and R3 is an acyl group.

97. The compound of claim 96, wherein R1 comprises an N,N-dimethylaminomethylene substituted amino group.

98. A compound of Formula 5



5

wherein R3 is an acyl group.

99. A process for forming enantiomerically-enriched tetrahydrobiopterin or a salt thereof from neopterin, comprising the following steps:

(a) protecting the primary amine group at C-2 of neopterin with a 2-amino protecting group;

(b) converting the primary hydroxyl group of neopterin to a thioether; and

(c) reduction of the thioether leaving a methyl group at the C-3` position on the neopterin side chain.

100. The process of claim 99, wherein said step (c) results in the removal of the 2-amino protecting group, and an erythro-selective reduction to yield tetrahydrobiopterin.

101. The process of claim 100, wherein said step (c) is performed with the use of a reducing agent comprising Raney-Nickel and hydrogen.

102. The process of claim 101, wherein said step (c) is performed at a temperature above 50 degrees Celsius.

103. The process of claim 102, wherein said step (c) is performed in a polar aprotic solvent.

104. The process of claim 103, wherein said polar aprotic solvent comprises ethanol.

105. The process of claim 99, wherein said step (c) does not result in the removal of said 2-amino protecting group and does not result in an erythro-selective reduction.

106. The process of claim 105, further comprising the step of removal of removal of the 2-amino protecting group.

107. The process of claim 106, wherein said removal of the 2-amino protecting group is performed with zinc dichloride in an ethanol solvent medium.

108. The process of claim 105, further comprising the step of an erythro-selective reduction to yield tetrahydrobiopterin.

109. The process of claim 108, wherein said erythro-selective reduction is performed with sodium borohydride in an alkaline medium.

110. The process of claim 109, wherein said erythro-selective reduction is performed with hydrogen and a catalytic amount of platinum dioxide.

111. The process of claim 105, wherein said step (c) is performed with the use of a reducing agent comprising Raney-Nickel.

112. The process of claim 111, wherein said step (c) is performed at room temperature.

113. The process of claim 112, wherein said step (c) is performed in a polar aprotic solvent.

114. The process of claim 113, wherein said polar aprotic solvent comprises ethanol.

115. The process of claim 99, further comprising the step of forming a salt of tetrahydrobiopterin.

116. The process of claim 115, wherein said salt of tetrahydrobiopterin comprises a dichloride salt of tetrahydrobiopterin.

117. The process of claim 116, further comprising the step of purifying said dichloride salt of tetrahydrobiopterin with recrystallization.

118. The process of claim 99, wherein said 2-amino protecting group is selected from the group consisting of linear chain alkyl groups, branched chain alkyl groups, single substituted amino groups, double substituted amino groups, aryl single substituted amino groups, linear alkyl substituted sulfur groups, branched chain alkyl substituted sulfur groups, linear alkyl single substituted alkylaminomethylene-imine groups, linear alkyl double substituted alkylaminomethylene-imine groups, branched alkyl single substituted alkylaminomethylene-imine groups, and branched alkyl double substituted alkylaminomethylene-imine groups.

119. The process of claim 118, wherein said 2-amino protecting group comprises a dialkylformamidedialkylacetal group.

120. The process of claim 119, wherein said dialkylformamidedialkylacetal group is selected from the group consisting of N,N-dimethylformamidediethylacetal, and N,N-dimethylformamidedimethylacetal.

121. The process of claim 118, wherein said 2-amino protecting group comprises a pivaloyl derivative of neopterin.

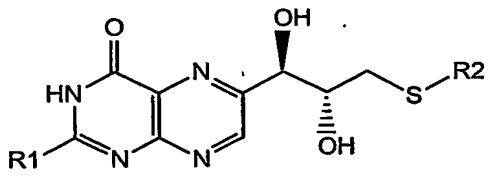
122. The process of claim 121, wherein said protecting the 2-amino group of neopterin is prepared by a two step process comprising, preparing a tetrapivaloyl derivative of neopterin, and performing alkaline hydrolysis on three pivaloyl groups on said tetrapivaloyl derivative of neopterin.

123. The process of claim 99, wherein said converting the primary hydroxyl group is performed using a disulfide reagent and a trialkylphosphine reagent.

124. The process of claim 123, wherein said disulfide reagent comprises diphenyl disulfide.

125. The process of claim 123, wherein said trialkylphosphine reagent comprises tributylphosphine.

126. A compound of Formula 15



15

wherein R1 is selected from the group consisting of single linear chain alkyl substituted amino groups, single branched chain alkyl substituted amino groups, double linear chain alkyl substituted amino groups, double branched chain alkyl

substituted amino groups, aryl single substituted amino groups, linear chain alkyl substituted sulfur groups, branched chain alkyl substituted sulfur groups, single linear chain alkyl substituted alkylaminomethyleneimine groups, or single branched chain alkyl substituted alkylaminomethyleneimine groups, double linear chain alkyl substituted alkylaminomethyleneimine groups, double branched chain alkyl substituted alkylaminomethyleneimine groups; and R2 is selected from the group consisting of linear chain alkyl groups, branched chain alkyl groups, and aryl groups.

127. The compound of claim 126, wherein R1 comprises a dialkylalkylaminomethyleneimine group.

128. The compound of claim 127, wherein R1 comprises dimethylaminomethyleneimine.

129. The compound of claim 126, wherein R2 comprises benzene.